

## Summary of the Conference

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In some ways the job of summarizer is an easy one, because he has the last word and has some license to say whatever pleases him. In fact, one might decide to write the summary before arriving and I have been accused of that already. Actually, if one tries to summarize in a meaningful way what has been said, it's not so easy; indeed it's rather difficult. However, in this case, I am not going to make any effort to itemize all that was said or to review in any chronological fashion what has taken place. Rather I shall try to select a few themes and ideas that have recurred during the course of the discussions and see if they can be put together in some meaningful fashion. I should also like to consider these themes in terms of our collective and individual responsibilities.

I think there is one simple classification that might be applied to almost all of the information, problems, projects, and solutions that have been of concern to us. That simple classification is on one hand, a generalized and overall view of the small-scale fisheries, and on the other hand, a highly specific approach to such fisheries. The economist might say that this is the macro-approach or the aggregate, as contrasted with the micro-approach. This contrast in the presentation of material during the meeting can clearly be seen in the description of the situation we face, both with respect to the resources themselves and the entire institutional infrastructure relating to fisheries. There also was discussion of a much more micro-sort dealing with particular fisheries and with individual and

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hand, we talked about an overall need for data on the resources as well as, other informational needs, which have to be handled on an aggregative approach at the national level, if not beyond that. We also talked about other broad programs of a comprehensive sort. On the other hand, as you all well know, there was much feeling that the "real" work was going to be done on the beach, dealing individually with specific cases. Actually, we must combine both approaches, the general and the specific, the macro and the micro into some reasonably balanced program.

Most of us, in our own work, will have a very particular niche and role to play and will seldom be operating over the whole range of the spectrum. It is important for us to realize that though we may be dealing with only one particular little niche, whatever we do may have a considerable impact on other related aspects of the total situation. Harvey Bullis, in his discussion of the hawksbill turtle spoke about *ad hoc* actions and surely one of the unfortunate aspects of an excess of such actions is their piecemeal nature, undertaken in an isolated fashion without being aware of the interrelationships of all phenomena. The

same theme of interconnection was addressed in earlier sessions of the Gulf and Caribbean Fisheries Institute in opening remarks by George Allen, who used very appropriately the analogy of the web. Also Verda Horn used very poetic and felicitous phrasing in speaking about the fact that every aspect of the universe is related to every other aspect, and certainly this applies to fisheries development and management, as well as to the broader problems of marine resources, in general.

I certainly do not wish to imply by emphasizing the network of interrelationships that we have to proceed in a great and grand plan for everything all at once, on all fronts. We simply cannot do that. Nor would I say that we have to do everything in terms of some highly organized form of planning. Clearly there has to be a fair amount of flexibility and in some cases, for instance, adequate response to market opportunities. But whatever we do, whether as a business man, as a fisherman, as a credit man in the bank, as a government extension worker, or as a central planner, we must be aware that what we are doing may have serious repercussions on others.

Let me pursue this a bit further, if you will, by looking at some more specific aspects of management and development of fisheries resources which are, in a way, but reverse sides of the same coin. We surely want these two elements of management and development to proceed with compatibility and yet, we know that all this is not necessarily going to be accomplished and certainly not very easily.

We know that any satisfactory management scheme must be based on an adequate amount of knowledge, on a good deal of scientific capability, and on competency in national and local administrations. Furthermore, and particularly in the Caribbean area, we realize that management to be successful must be carried out within a context of regional cooperation. While it is easy for us to recognize that much of this knowledge and capability is a national responsibility, and indeed that the management system has to be put into a context of regional and international cooperation, we sometimes neglect the fact that a management system to be effective must be understood, accepted, and, of course, enforced at the lowest level of organization, namely the individual fisherman.

I was struck by some of the remarks of Winston Miller in his discussion of the management scheme for spiny lobster in Belize. He spoke about the total allowable catch having been determined, at the national level, by establishing export quotas for the lobster. These export quotas were then allocated to the separate cooperatives. In turn, there had to be a system for allocating the catch among the individual fishermen within the cooperative. And at this point, there had to be some mechanism to make sure that the fishermen understood what the management system was all about if they were to respect it. In this context, Mr. Miller mentioned the usefulness of having a National Fisheries Advisory Board as an important instrument of communication. Not only, therefore, do you have to have adequate institutional mechanisms and capabilities all the way along in the vertical chain, but you also have to have an effective system of communication, as well as a mutual respect among the individual participants and organizations involved in the process.

In the first GCFI session, Harris Stewart and Roland Smith spoke about coastal zone management and the United States Fisheries Management and Conservation Act of 1976. Both indicated that in the implementation of these programs, new techniques of organization had to be devised. A new sense of federalism had to be established, making sure that there was an adequate degree of communication and interaction between the local levels and the national levels. In the coastal zone management arena, this was being exercised through the development of state plans, which then made their way through the national bureaucracy. In the case of the fisheries management effort, a new mechanism of regional councils has been set up. These councils are charged with the responsibility of developing, at the regional or local level, fisheries plans for management and conservation. Channels of cooperation and communication had to be established between these councils and the Federal Government, a process that has been to some extent uneasy and not fully worked out at the present time.

Let me now look at the development side of fisheries. As in the case of management, development cannot be satisfactorily achieved either by concentrating only on grand national plans or by dealing exclusively with problems of village fishermen on the beach. Successful development must achieve some kind of an integration between these two extremes. Let me refer again to Harvey Bullis' remarks in which he indicated that the development effort on behalf of the individual fishermen on the island beach, of which he so eloquently spoke, was not very successful. It didn't work because development, even in that very localized arena, must be taken in the context of a broader picture of interacting elements of a biological, political, social, and economic nature. Furthermore, the example given by Mr. Bullis illustrates that a successful effort must be a continuing one, an *ad hoc* effort does not work, for successful development is not a matter of a discrete phenomenon. Another interesting example was presented by a discussion of the local shrimp fishery in Trinidad in which the introduction of better gear was extremely successful. But that development also took place, in a sense on the beach. To be permanently successful, consideration also had to be given to the related problems of handling, marketing, and distribution.

Apart from being concerned with the vertical sequence in fisheries development, we must also be concerned with the fact that the fishermen are often competing for use of the same resource or for resources that are biologically dependent upon one another. In the Caribbean Fisheries Session of GCFI, Dick Robins spoke about the potential of the Gulf of Uraba, making the point that there was a very adequate resource there for a small scale fishery and that it could be developed in a limited fashion, though very economically. But he also indicated that one had to be mindful of the fact that large-scale fishing, even as a random and occasional occurrence, could utterly destroy the resource for the small fisherman. In such a case, the small fisherman may very well require some degree of protection for that resource. Protection to enable that development to take place involves a whole panoply of government management efforts, including enforcement measures.

If we begin to think about reserving certain fish species for particular kinds of fishermen, not to mention restricting the total amount of effort that might be applied to any one species, we have clearly fully crossed the bridge between

management and development. We find that any intelligent and rational utilization as well as management of our fisheries resources requires joint consideration of management and development aspects.

I think we all agree that this meeting of the Gulf of Caribbean Fisheries Institute has been most interesting and constitutes a very worthwhile beginning in an exploration of the problems and potential for small scale fisheries development and their proper management in the region. It was the right topic, at the right time, the right people have been here and surely this has been the right and most pleasant place to carry on this discussion. But one does hope that this is not going to be one little grain of sand on the beach that will get swept away in the tide. All of us have been to too many conferences where all the good papers read, and all the good things said, were promptly forgotten as we hastened to the next conference. It seems to me that in this case, we might have a little more hope for a continuing development of the ideas that have been discussed in these last few days. The Gulf and Caribbean Fisheries Institute has a real and unique opportunity to keep alive the subject of small-scale fisheries management and development in the Caribbean. I would hope that it would continue to do this in an organized, substantive, scientific, intellectual, and yet practical basis. It has every reason for doing this for there is at its disposal all of the needed and varied talent of the whole region. Furthermore, the Institute in its recent program of activities, has clearly been more and more establishing itself as being in the center of the Caribbean rather than on the circumference.

All of us concerned with the Caribbean need some answers with respect to development and management of fisheries as Phil Roedel mentioned in his introduction. We need these answers no matter what particular niche we occupy in terms of our professional or business responsibilities. The Gulf and Caribbean Fisheries Institute is alone in the area in terms of its international membership as well as in terms of the broad range of skills and disciplines that are represented at this meeting and in its membership. It seems to me the Gulf and Caribbean Fisheries Institute has an advantage over such an organization as WECAF, or any other agency of an international intergovernmental sort, because the Institute is independent and has none of the political ramifications nor restraints that must necessarily be attached to such organizations as WECAF or IOCARIBE, despite the great competency and the effectiveness of these organizations. I do not see WECAF or IOCARIBE or for that matter FAO or the IOC, who are the parent bodies, exercising the kind of intellectual, broad evaluative kind of analysis for fisheries management and development in this region that the Institute can apply. In this respect the Institute can establish a useful precedent. It may be the first time that a particular region has been well served by a broadly disciplined, intellectually capable, but practically minded group that would look at the problems and provide recommendations for their solution, insuring a continuing and objective leadership that is not otherwise available.